Modern planktic foraminifers in the high-latitude ocean

Titre	Modern planktic foraminifers in the high-latitude ocean
Type de publication	Article de revue
Auteur	Schiebel, Ralf [1], Spielhagen, Robert F [2], Garnier, Julie [3], Hagemann, Julia [4], Howa, Hélène [5], Jentzen, Anna [6], Martínez-Garcia, Alfredo [7], Meilland, Julie [8], Michel, Elisabeth [9], Repschläger, Janne [10], Salter, Ian [11], Yamasaki, Makoto [12], Haug, Gerald [13]
Editeur	Elsevier
Type	Article scientifique dans une revue à comité de lecture
Année	2017
Langue	Anglais
Date	Octobre 2017
Pagination	1-13
Volume	136
Titre de la revue	Marine Micropaleontology
ISSN	03778398
Mots-clés	Carbon turnover [14], Climate Change [15], Marine ecology [16], Paleoceanography [17], phenology [18], Polar climate [19]
Résumé en anglais	Planktic foraminifers can be sensitive indicators of the changing environment including both the Arctic Ocean and Southern Ocean. Due to variability in their ecology, biology, test characteristics, and fossil preservation in marine sediments, they serve as valuable archives in paleoceanography and climate geochemistry over the geologic time scale. Foraminifers are sensitive to, and can therefore provide proxy data on ambient water temperature, salinity, carbonate chemistry, and trophic conditions through shifts in assemblage (species) composition and the shell chemistry of individual specimens. Production and dissolution of the calcareous shell, as well as growth and remineralization of the cytoplasm, affect the carbonate counter pump and to a lesser extent the soft-tissue pump, at varying regional and temporal scales. Diversity of planktic foraminifers in polar waters is low in comparison to lower latitudes and is limited to three native species: Neogloboquadrina pachyderma, Turborotalita quinqueloba, and Globigerina bulloides, of which N. pachyderma is best adapted to polar conditions in the surface ocean. Neogloboquadrina pachyderma hibernates in brine channels in the lower layers of the Antarctic sea ice, a strategy that is presently undescribed in the Arctic. In open Antarctic and Arctic surface waters T. quinqueloba and G. bulloides increase in abundance at lower polar to subpolar latitudes and Globigerinita uvula, Turborotalita humilis, Globigerinita glutinata, Globorotalia inflata, and Globorotalia crassaformis complement the assemblages. Over the past two to three decades there has been a marked increase in the abundance of Orcadia riedeli and G. uvula in the subpolar and polar Indian Ocean, as well as in the northern North Atlantic. This paper presents a review of the knowledge of polar and subpolar planktic foraminifers. Particular emphasis is placed on the response of foraminifers to modern warming and ocean acidification at high latitudes and the implications for data interpretation in paleoceanography and paleoclimate research.

URL de la notice	http://okina.univ-angers.fr/publications/ua18603 [20]
DOI	10.1016/j.marmicro.2017.08.004 [21]
Lien vers le document	https://www.sciencedirect.com/science/article/pii/S0377839817300312?via%... [22]
Titre abrégé	Marine Micropaleontology

Liens
[1] http://okina.univ-angers.fr/ralf.schiebel/publications
[2] http://okina.univ-angers.fr/publications?f%5Bauthor%5D=32808
[3] http://okina.univ-angers.fr/publications?f%5Bauthor%5D=26036
[4] http://okina.univ-angers.fr/publications?f%5Bauthor%5D=32810
[5] http://okina.univ-angers.fr/he.ho/publications
[6] http://okina.univ-angers.fr/publications?f%5Bauthor%5D=32811
[7] http://okina.univ-angers.fr/publications?f%5Bauthor%5D=32812
[8] http://okina.univ-angers.fr/jmeilland/publications
[9] http://okina.univ-angers.fr/publications?f%5Bauthor%5D=6731
[10] http://okina.univ-angers.fr/publications?f%5Bauthor%5D=32813
[11] http://okina.univ-angers.fr/publications?f%5Bauthor%5D=20249
[12] http://okina.univ-angers.fr/publications?f%5Bauthor%5D=32815
[13] http://okina.univ-angers.fr/publications?f%5Bauthor%5D=32816
[14] http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=22226
[15] http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=8317
[16] http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=26832
[17] http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=23541
[18] http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=11874
[19] http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=26831
[20] http://okina.univ-angers.fr/publications/ua18603
[21] http://dx.doi.org/10.1016/j.marmicro.2017.08.004
[22] https://www.sciencedirect.com/science/article/pii/S0377839817300312?via%3Dihub